

BEFORE THE  
**Federal Communications Commission**  
WASHINGTON, D.C. 20554

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In the Matter of

Service Rules for the 746-764 and  
776-794 MHz Bands, and  
Revisions to Part 27 of the  
Commission's Rules

DOCKET FILE COPY ORIGINAL

WT Docket No. 99-168

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

To: The Commission

**OPPOSITION OF TRW INC. TO THE  
MOTOROLA PETITION FOR RECONSIDERATION OR CLARIFICATION**

TRW Inc. ("TRW"), by its attorneys and pursuant to Section 1.429 of the Federal Communications Commission's rules,<sup>1</sup> hereby opposes the Petition of Motorola for Reconsideration or Clarification<sup>2</sup> of the recent Commission action in the above-captioned proceeding.<sup>3</sup> Importantly, the Motorola Petition attempts to redefine Commission decisions that

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<sup>1</sup> 47 C.F.R. § 1.429.

<sup>2</sup> Petition of Motorola for Reconsideration or Clarification in WT Docket No. 99-168 (filed August 11, 2000) ("Motorola Petition" or "Motorola's Petition," as appropriate).

<sup>3</sup> *Service Rules for the 746-764 and 776-794 MHz Bands, and Revision to Part 27 of the Commission's Rules*, FCC 00-224 (WT Docket No. 99-168), *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, slip op. (rel. June 30, 2000) ("MO&O").

go to the heart of the efficient utilization of the 700 MHz bands, which has been of the utmost concern to the Commission.<sup>4</sup>

In its petition, Motorola seeks reconsideration or clarification of the Commission's decision to allow for high powered base station operation in the 777-792 MHz band.<sup>5</sup> To support its request, Motorola provides technical attachments intended to show that high powered base stations operating in the upper portion of the 700 MHz bands may interfere with public safety receivers. TRW's initial review of the Motorola Petition and its technical attachments, however, indicates that Motorola is basing its arguments on invalid and/or unreasonable technical formulations. Further, a Commission reversal on the operation of base stations in the upper 700 MHz band would contradict its commitment to allow for innovate, flexible and efficient utilization of the 700 MHz bands – including the provision of Time Division Duplexing ("TDD") systems.<sup>6</sup> For these reasons, TRW generally opposes the Motorola Petition and, upon further analysis of Motorola's technical attachments, may submit detailed supplemental comments and technical analyses of its own demonstrating that Motorola's position is technically deficient and incorrect on several fronts.<sup>7</sup> In any case, the following comments make clear that the Commission must

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<sup>4</sup> See *MO&O*, FCC 00-224, slip op., at 1-2 (¶¶ 1-2). See also *Cellular Telecommunications Industry Association et al. 's Request for Delay of the Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for September 6, 2000 (Auction No. 31)*, FCC 00-304, *Memorandum Opinion*, slip op., at 6 (¶ 9) (rel. Sep, 12, 2000) (postponing the 700 MHz auction with the ultimate goal of increasing the efficient utilization of the spectrum).

<sup>5</sup> See Motorola Petition at 4.

<sup>6</sup> See *MO&O*, FCC 00-224, slip op., at 1-2 (¶¶ 1-2), at 6-7 (¶¶ 7-10).

<sup>7</sup> TRW's technical experts on these issues were on travel and were unable to provide a detailed technical response to the Motorola Petition by the September 15, 2000 deadline. If a further submission is deemed necessary, TRW will do so by September 25, 2000.

deny Motorola's Petition and leave intact its decision concerning the operation of base stations in the upper and lower 700 MHz bands.

The most glaring defect of the Motorola Petition is that the likelihood of interference to public safety receivers is grossly overstated, in part, because the assumed distance traveled by a 700 MHz base station signal is significantly less than Motorola states.<sup>8</sup> The Motorola propagation calculations -- based on assumed free-space propagation -- are wholly irrational and irrelevant. These calculations do not account for realistic propagation characteristics -- e.g., considerable signal degradation occurring as a result of ground influences or obstructions. Failure to account for these physical characteristics results in calculations that suggest that base station transmissions travel much longer distances and would more likely interfere with public safety receivers. The use of reasonable, and far more realistic, assumptions would yield virtually no interference to public safety systems.

Further, it is unreasonable to assume -- as Motorola suggests<sup>9</sup> -- that a 1 dB rise in noise threshold will necessarily disrupt communications at the fringe areas. Public safety receivers should operate with sufficient signal-to-noise margins and enough coding gains to provide sufficient margin to overcome slight increases in receiver noise.

Lastly, Motorola also incorrectly assumes that base station antennas are in line-of-sight to public safety base stations.<sup>10</sup> In fact, inter-system antenna misalignment is common in the

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<sup>8</sup> See Motorola Petition at 5, 7; Motorola Petition, Attachment A at 7, 9, 13.

<sup>9</sup> See Motorola Petition at 6; Motorola Petition, Attachment B at B-2.

<sup>10</sup> See Motorola Petition at 6.

industry. Allowing for the required misalignment correction further reduces the calculated separation distance between commercial base stations and public safety systems.

In short, the Motorola analyses are simply not credible.

### CONCLUSION

For the foregoing reasons, the rationale offered by Motorola for the Commission to reconsider the 700 MHz band allocation is insufficient. Allowing commercial base stations to operate in the upper and lower 700 MHz band provides the most efficient use of the spectrum, while protecting public safety systems. There is nothing in the Motorola Petition that legitimately challenges this Commission determination. Accordingly, the Commission should deny the Motorola Petition.

Respectfully submitted,

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September 15, 2000

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**CERTIFICATE OF SERVICE**

I, Rebecca Cole, do hereby certify that copies of the foregoing "Opposition of TRW Inc. to the Motorola Petition for Reconsideration or Clarification" was sent this 15<sup>th</sup> day of September, 2000 to the following in the manner indicated:

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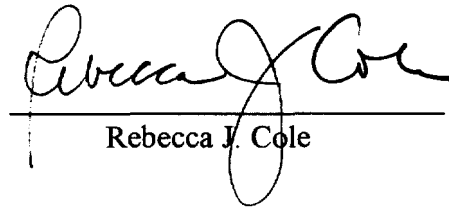
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